

AMENDMENTS TO THE CLAIMS

**Complete listing of all claims, with status identifiers,
as Amended by this Preliminary Amendment**

(added text shown with underlining; deleted text shown by ~~striketrough~~)

1. (CURRENTLY AMENDED) A method of vaccinating a subject comprising administering to the subject an immunogenic agent, wherein the immunogenic agent is a recombinant poxvirus, wherein the recombinant poxvirus genome does not comprise a functional gene encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase, ~~for use as a medicament.~~
2. (CANCELED)
3. (CANCELED)
4. (CANCELED)
5. (CANCELED)
6. (CANCELED)
7. (CANCELED)
8. (CANCELED)
9. (CANCELED)
10. (CANCELED)
11. (CANCELED)
12. (CANCELED)

13. (CANCELED)

14. (CURRENTLY AMENDED) ~~A recombinant poxvirus as claimed in~~ The method of claim 1 or claim 2 wherein the recombinant poxvirus is selected from the group consisting of orthopoxviruses, parapoxviruses, avipoxviruses, suipoxviruses, molluscipoxviruses, and yatapoxviruses.

15. (CANCELED)

16. (CANCELED)

17. (CANCELED)

18. (CANCELED)

19. (CURRENTLY AMENDED) ~~A~~ The method of claim 1,
wherein the recombinant poxvirus as claimed in any one of claims 1 to 18 in which the
poxvirus has no coding sequence encoding a 3β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4
isomerase; or

wherein the gene encoding the 3β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase is
disrupted, mutated or truncated such that its gene product has reduced activity; or

wherein one or more mutations or deletions in the promoter or other upstream
sequences of the gene encoding a 3β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase cause
expression of the gene to be compromised, leading to reduced levels of gene expression.

20. (CANCELED)

21. (CANCELED)

22. (CANCELED)

23. (CURRENTLY AMENDED) A vaccine composition comprising a recombinant poxvirus wherein the poxvirus genome does not comprise a functional 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase, and a pharmaceutically suitable carrier.
24. (CURRENTLY AMENDED) ~~A~~ The vaccine composition as claimed in according to claim 23, wherein said composition further comprises ~~comprising~~ one or more additives selected from the group ~~comprising~~ consisting of a preservative, a stabiliser and an adjuvant.
25. (CURRENTLY AMENDED) ~~A~~ The vaccine composition according to claim 23, kit comprising a composition as claimed in claim 23 or 24 wherein said recombinant poxvirus is selected from the group consisting of vaccinia viruses, parapoxviruses, avipoxviruses, suipoxviruses, molluscipoxviruses, and yatapoxviruses.
26. (CANCELED)
27. (CURRENTLY AMENDED) A vaccine composition according to claim 23,
wherein the ~~Use of a~~ recombinant poxvirus ~~has no coding sequence having a genome which does not comprise a functional gene encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase; or for the manufacture of a vaccine for the immunoprophylaxis of an infection caused by a poxvirus~~
wherein the gene encoding the 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase is disrupted, mutated or truncated such that its gene product has reduced activity; or
wherein one or more mutations or deletions in the promoter or other upstream sequences of the gene encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase cause expression of the gene to be compromised, leading to reduced levels of gene expression.
28. (CURRENTLY AMENDED) ~~A~~ The method of claim 1, wherein said immunogenic agent is a recombinant poxvirus having a genome comprising a non-poxvirus gene or a fragment of a non-poxvirus gene which gene or fragment encodes an antigen, wherein the poxvirus genome does not comprise a functional gene encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase, for use as a medicament.
29. (CANCELED)

30. (CURRENTLY AMENDED) The method of A recombinant poxvirus as claimed in claim 28 or claim 29, wherein the poxvirus is a vaccinia virus, a cowpox virus, a camelpox virus or an ectromelia virus, or a derivative of any of those viruses.

31. (CANCELED)

32. (CURRENTLY AMENDED) The method of claim 28, A recombinant poxvirus as claimed in claim 31 wherein the poxvirus is a vaccinia virus strain selected from the group consisting of Lister, Copenhagen, Wyeth, New York City Board of Health, NYVAC, Praha virus, DRYVAX Wyeth-derived virus, LIVP, IHD-J, IHD-W, Tian Tan, Tashkent, King Institute, Patwadanger, EM-63, Evans, Bern, LC16m0 and MVA.

33. (CANCELED)

34. (CURRENTLY AMENDED) The method of claim 28, A recombinant poxvirus as claimed in any one of claims 28 to 33 in which wherein the non-poxvirus gene or non-poxvirus gene fragment that encodes an antigen is a non-poxvirus gene or non-poxvirus gene fragment against the gene product of which a protective immune response in a subject is desirable.

35. (CANCELED)

36. (CANCELED)

37. (CURRENTLY AMENDED) The method according to claim 28, wherein the administration of said immunogenic agent is for the prophylaxis of an infection caused by a pathogenic agent, or A recombinant poxvirus as claimed in claim 28 to 34 for use as a vaccine for the prophylaxis or treatment of a disease associated with aberrant cells.

38. (CURRENTLY AMENDED) The method according to claim 37, A recombinant poxvirus as claimed in claim 37 in which the non-poxvirus gene encodes an immunogenic peptide or polypeptide of an infectious pathogen, or an antigenic peptide or polypeptide of aberrant cells, for example cancer cells, the elimination or induced quiescence of which is beneficial.

39. (CURRENTLY AMENDED) The method according to claim 28, A recombinant poxvirus as claimed in claim 28 or claim 29 wherein the recombinant poxvirus is selected from the group consisting of parapoxviruses, avipoxviruses, suipoxviruses, molluscipoxviruses and yatapoxviruses.

40. (CURRENTLY AMENDED) The method according to claim 28, wherein A recombinant poxvirus as claimed in claim 39 in which the non-poxvirus gene that encodes an antigen is a non-poxvirus gene against the gene product of which a protective immune response in a subject is desirable.

41. (CURRENTLY AMENDED) The method according to claim 28, A recombinant poxvirus as claimed in any one of claims 28 to 40 in which

wherein the poxvirus has no coding sequence encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase; or

wherein the gene encoding the 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase is disrupted, mutated or truncated such that its gene product has reduced activity; or

wherein one or more mutations or deletions in the promoter or other upstream sequences of the gene encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase cause expression of the gene to be compromised, leading to reduced levels of gene expression.

42. (CANCELED)

43. (CANCELED)

44. (CURRENTLY AMENDED) A vaccine composition comprising a poxvirus as defined in any one of claims 28 to 43 having a genome comprising a non-poxvirus gene or a fragment of a non-poxvirus gene which gene or fragment encodes an antigen, wherein the poxvirus genome does not comprise a functional gene encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase, and a pharmaceutically suitable carrier.

45. (CURRENTLY AMENDED) A The vaccine composition as claimed in according to claim 44, further comprising one or more additives selected from the group comprising consisting of an antibiotic, a preservative, a stabiliser and an adjuvant.

46. (CURRENTLY AMENDED) ~~A The vaccine kit comprising a composition as claimed in according to claim 44 or 45, wherein said poxvirus is selected from the group consisting of a vaccinia virus, a cowpox virus, a camelpox virus, and an ectromelia virus, and derivatives thereof.~~

47. (CANCELED)

48. (CANCELED)

49. (CANCELED)

50. (CURRENTLY AMENDED) A recombinant poxvirus having a genome comprising a non-poxvirus gene or a fragment of a non-poxvirus gene which gene or fragment encodes an antigen, wherein the poxvirus genome does not comprise a functional gene encoding a 3 β -hydroxysteroid dehydrogenase/ Δ^5 - Δ^4 isomerase, with the proviso that the non-poxvirus gene or fragment of a non-poxvirus gene is not a gene encoding varicella-zoster virus glycoprotein E, hepatitis B virus preS2-S protein or *E.coli* guanine phosphoribosyl transferase

51. (NEW) The vaccine composition of claim 44, wherein said recombinant poxvirus is a vaccinia virus strain selected from the group consisting of Lister, Copenhagen, Wyeth, New York City Board of Health, NYVAC, Praha virus, DRYVAX Wyeth-derived virus, LIVP, IHD-J, IHD-W, Tian Tan, Tashkent, King Institute, Patwadanger, EM-63, Evans, Bern, LC16m0 or MVA.

52. (NEW) The vaccine composition of claim 44, wherein said poxvirus is selected from the group consisting of parapoxviruses, avipoxviruses, suipoxviruses, molluscipoxviruses, and yatapoxviruses.

53. (NEW) The vaccine composition of claim 44,
wherein the recombinant poxvirus has no coding sequence encoding a 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase; or
wherein the gene encoding the 3 β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase is disrupted, mutated or truncated such that its gene product has reduced activity; or

wherein one or more mutations or deletions in the promoter or other upstream sequences of the gene encoding a 3β -hydroxysteroid dehydrogenase / Δ^5 - Δ^4 isomerase cause expression of the gene to be compromised, leading to reduced levels of gene expression.